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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/620,943	07/21/2000	Robert Keller	TI-30714	4054

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EXAMINER	
KAO, CHIH CHENG G	

ART UNIT	PAPER NUMBER
2882	

DATE MAILED: 12/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/620,943	KELLER ET AL.	
	Examiner	Art Unit	
	Chih-Cheng Glen Kao	2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 November 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2,3,5,6 and 18-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2,3,5,6 and 18-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 July 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 2, 18, 20, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Orino et al. (US Patent 5627669).

2. Regarding claims 18 and 23, Orino et al. discloses an optical path-to-sight link (fig. 13) comprising: a transmitter (fig. 1) comprising a source (fig. 1, #1) generating a collimated light beam (fig. 1, #2) for transmitting information (col. 1, lines 12-13) and having a path directed outside of said transmitter (fig. 13), said transmitter (fig. 13, #20 on left) being pointed in a general direction of a remote receiver (fig. 13, #20 on right), a moveable mirror (fig. 1, #4) coupled in a path between said source (fig. 1, #1) and an exit point (fig. 13, #20) for said collimated light beam and for reflecting said collimated light beam to impinge on a photodetector (fig. 1, #8) in said remote receiver, a beam positioner consisting essentially of a controller (fig. 1, #12) responsive to the position of the collimated light in the remote receiver (fig. 1) for controlling orientation of said mirror (fig. 1, #4) so that said collimated light beam is reflected onto said photodetector (fig. 1, #8), said controller (fig. 1, #12) being only responsive to an external signal generated by said remote receiver (fig. 1, signal from #8) in response to the

position of the collimated light in the remote receiver, and further comprising a control loop or link (fig. 1, loop from #8 to 12) coupled between said controller (fig. 1, #12) and said remote receiver (fig. 1) for providing a control signal to said controller (fig. 1, #12) for controlling said mirror orientation (fig. 1, #4), said control loop being independent of said optical link (fig. 1, #6).

However, Orino et al. fails to specifically disclose a micromirror.

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the system of Orino et al. with a micromirror, since such a modification would have only involved a mere change in size. A change in size is generally recognized as being within the level of ordinary skill in the art. One would be motivated to make such a modification for a more compact system.

3. Regarding claims 2 and 24, Orino et al. further discloses wherein said mirror comprises a single two axis rotatable mirror capable of reflecting light in any orientation within a predetermined field of view (fig. 2).

4. Regarding claim 20, Orino et al. further discloses wherein said control loop comprises a circuit (fig. 1, #11) for detecting the incidence of said collimated light beam on said photodetector (fig. 1, #8) and generating a detection signal and wherein said detection signal is said control signal coupled to said controller (fig. 1, #12) by said control loop.

5. Claims 3, 5, 6, and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Orino et al. as applied to claims 18 and 23 above, and further in view of Hoen (US Patent 6253001).

6. Regarding claims 3 and 25, Orino et al. suggests a system as recited above.

However, Orino et al. fails to disclose wherein a micromirror comprises a plurality of mirrors, each capable of being rotated in a single axis, capable of reflecting light in any orientation within a predetermined field of view.

Hoen teaches wherein a micromirror comprises a plurality of mirrors, each capable of being rotated in a single axis, capable of reflecting light in any orientation within a predetermined field of view (fig. 1, #22, and fig. 6).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the system of Orino et al. as modified above with the micromirrors of Hoen, since one would be motivated to make such a modification to process more signals (fig. 1) as implied from Hoen.

7. Regarding claims 5, 6, 26, and 27, Orino et al. suggests a system as recited above.

However, Orino et al. fails to disclose wherein a micromirror is fabricated from silicon or metal.

Hoen teaches wherein a micromirror is fabricated from silicon or metal (col. 9, lines 56-60).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the system of Orino et al. as modified above with the mirror materials of Hoen, since it is within the general skill of a worker in the art to select a known material on the basis of its suitability. One would be motivated to make such a modification for easier manufacturing.

8. Claims 19, 22, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Orino et al. as applied to claims 18 and 23 above, and further in view of Scifres (US Patent 6025942).

Orino et al. as modified above suggests a system as recited above.

However, Orino et al. fails to disclose modulation and demodulation for Ethernet protocol.

Scifres teaches modulation and demodulation (col. 2, lines 19-24) for Ethernet protocol (col. 2, lines 44-47).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the system of Orino et al. with the modulation and demodulation of Scifres, since one would be motivated to make such a modification to increase data transmission speed (col. 2, lines 37-39) as shown by Scifres.

9. Claims 21 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Orino et al. as applied to claims 18 and 23 above, and further in view of Agazzi et al. (US Patent Application Publication 2001/0035994).

Orino et al. as modified above suggests a system as recited above.

However, Orino et al. fails to disclose a VCSEL laser diode.

Agazzi et al. teaches a VCSEL laser diode (col. 6, lines 22-24).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the system of Orino et al. as modified above with the VCSEL of Agazzi et al., since one would be motivated to make such a modification for lower power consumption.

Response to Arguments

10. Applicants' arguments filed 11/23/05 have been fully considered but they are not persuasive.

In the Applicants' remarks, Applicants noted the contradictory statements by the Examiner with regards to the micromirror in the previous Office Action. The Examiner kindly thanks Applicants for pointing out this minor typographical error, and has made the necessary corrections.

In response to Applicants' argument that the references fail to show certain features of Applicants' invention, it is noted that the features upon which Applicants rely (i.e., a separate link which allows the receiver to tell the transmitter how to adjust the mirror in the transmitter so as to assure maximum signal is received at the receiver) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Cheng Glen Kao whose telephone number is (571) 272-2492. The examiner can normally be reached on M - F (9 am to 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

gk

EDWARD J. GLICK
SUPERVISORY PATENT EXAMINER